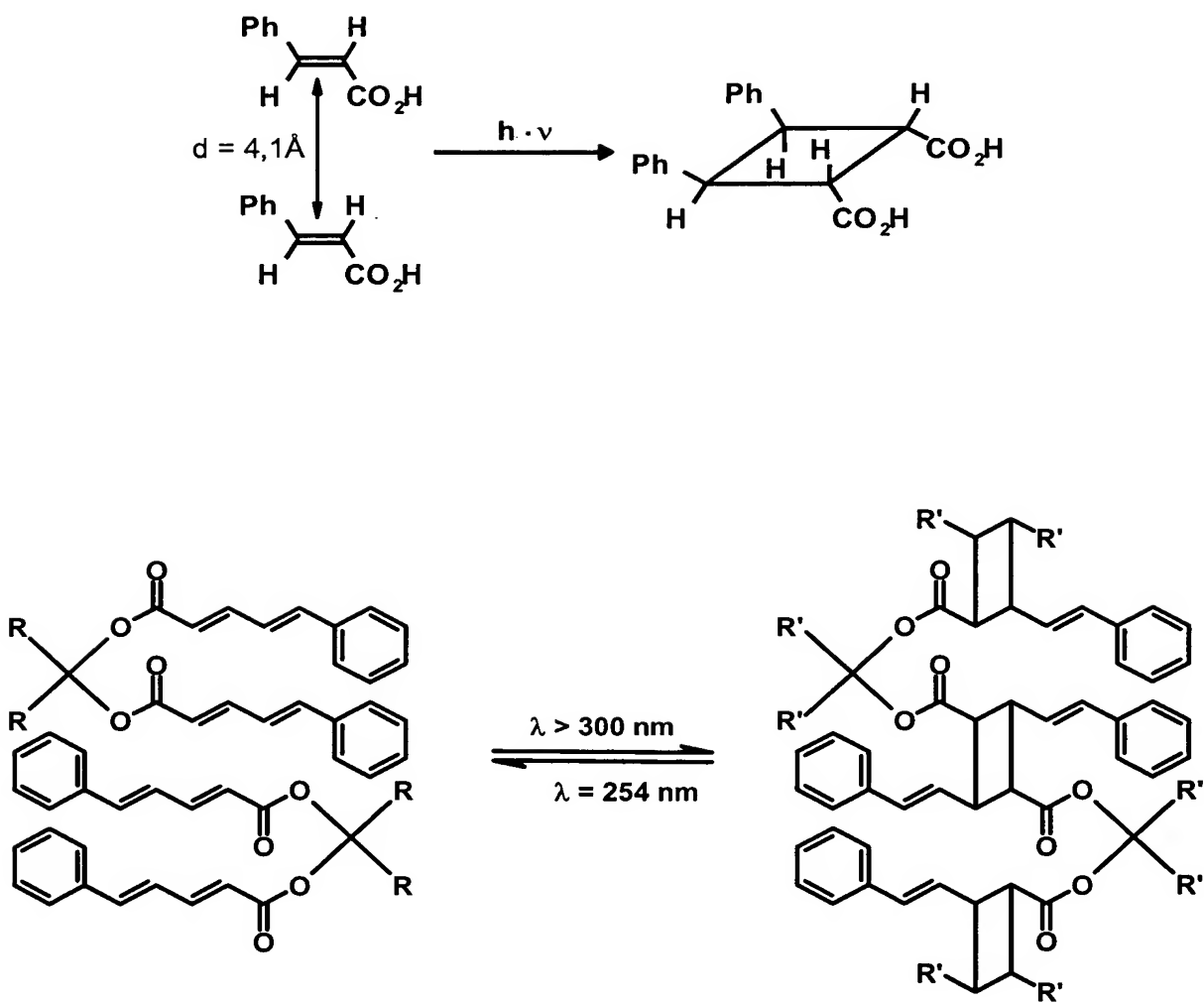


Functional principle of a photosensitive network on the macroscopic and molecular level

- Photoreactive Group
- Covalent crosslinking point
- Polymer chain

FIGURE 1



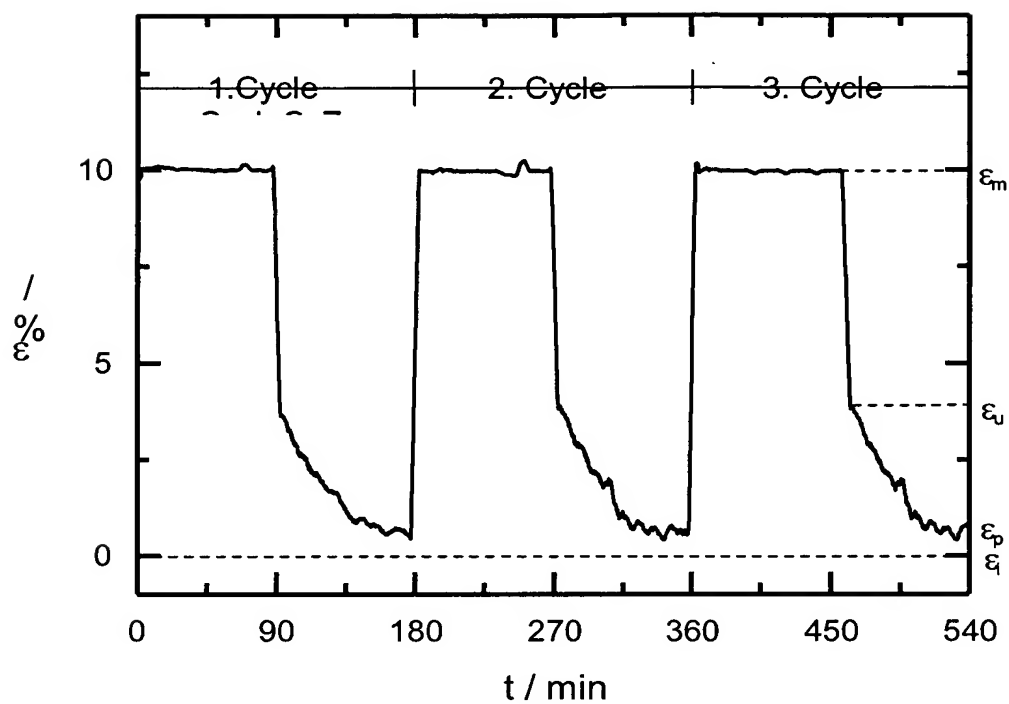
Above: photoreaction of cinnamic acid

Below: Reversible Photo crosslinking of cinnamylacrylate with UV light

R: Cinnamylacrylate ((C₆H₅)-(CH)₄-CO₂⁻); R': Polymer network;

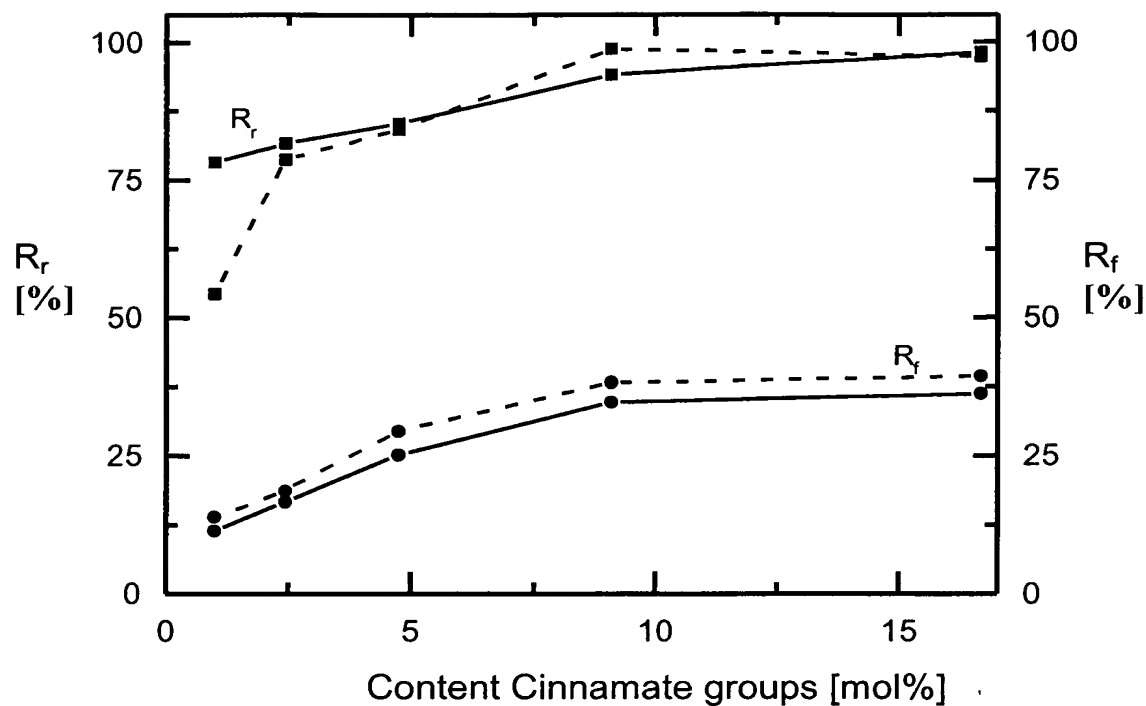
✕: *b*-PEG (star shaped, 4 branches).

FIGURE 2



Elongation ε of a photosensitive network (Sample 7A) during 3 repetitions of a photomechanical cycle (stress regulated)

FIGURE 3



Shape memory properties of photosensitive SMP samples 2A-2E having increasing contents of photoreactive component. Straight lines do show the results of the stress regulated photo mechanical cycles ($-\square-$ R_r and $-\bullet-$ R_f), while dashed lines show the results of the length regulated cycles ($--\square--$ R_r and $--\bullet--$ R_f). For the calculation the 5th cycle was used. Elongation was 10%.

FIGURE 4